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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,798	11/10/2003	Douglas A. Gerecht	030286	4797
23696	7590	08/04/2005	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			TRINH, SONNY	
			ART UNIT	PAPER NUMBER
			2687	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/705,798	Applicant(s) GERECHT, DOUGLAS A.	
	Examiner Sonny TRINH	Art Unit 2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8,10-18,23-26,31 and 33-36 is/are rejected.
- 7) ☒ Claim(s) 3-7,9,19-22,27-30 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/4/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-2, 17-18, 25-26, 35-36** are rejected under 35 U.S.C. 102(e) as being anticipated by MacDonald et al. ("MacDonald"; U.S. Patent Application Publication 2004/0152471 A1).

Regarding **claim 1**, with reference to figures 11, 13 and 15, MacDonald discloses a location tracing system for mobile telecommunication terminal and method comprising:

receiving information from a subscriber unit of a wireless communication system, the information being indicative of signals detected by the subscriber unit in the wireless communication system (see figures 11, 15, and [0017]);

dividing an area where the subscriber unit is suspected to be into a plurality of sectors (figure 13 and [0094]).

scoring the sectors based on the information, wherein a score for a respective sector indicates a likelihood that the subscriber unit is in the respective sector ([0017], claim 19).

Regarding **claim 2**, MacDonald further teaches that the scoring of the sectors are based on the information for each of a plurality of timing errors hypothesized for the subscriber unit ([0078]).

Regarding **claims 17-18**, these claims merely reflect the computer program necessary for performing the method step of claims 1-2 and are therefore rejected for the same reasons.

Regarding **claims 25-26 and 35-36**, these 4 claims merely reflect the system and apparatus claim as opposed to the method claim of claims 1-2 and are therefore rejected for the same reasons.

2. **Claims 12-16** are rejected under 35 U.S.C. 102(e) as being anticipated by de Verteuil ("Verteuil"; U.S. Patent Application Publication 2003/0148771 A1).

Regarding **claim 12**, with reference to figures 1-2, Verteuil discloses a method comprising:

receiving information from a subscriber unit of a wireless communication system, the information being indicative of signals detected by the subscriber unit in the wireless communication system (figure 1, mobile 102 is communicating with the base station 104);

identifying two or more probable locations of the subscriber unit based on the information [0046] – [0048]; and

sending position assistance information to the subscriber unit based on the two or more probable locations [0044].

Regarding **claim 13**, Verteuil further discloses that the position assistance information identifies a set of global positioning system (GPS) satellites [0044].

Regarding **claim 14**, with reference to figures 1-2, Verteuil discloses a method comprising:

detecting signals associated with base stations of a wireless communication system (figure 1, mobile 102 is communicating with the base station 104);

sending information from a subscriber unit, the information being indicative of the detected signals (figure 1, mobile 102 is communicating with the base station 104); and

receiving position assistance information that identifies two or more probable locations of the subscriber unit 9[0044], see also figure 2 and description).

Regarding **claim 15**, Verteuil further discloses that the position assistance information identifies a set of global positioning system (GPS) satellites [0044]).

Regarding **claim 16**, Verteuil further discloses the steps of identifying a position of the subscriber unit using signals from one or more satellites in the set of GPS satellites [0044].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 8 and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over MacDonald et al. ("MacDonald"; U.S. Patent Application Publication 2004/0152471 A1) in view of Yang et al. ("Yang"; U.S. Patent Number 6,785,321 B1).

Regarding **claims 8 and 31**, MacDonald discloses the invention but does not explicitly disclose that the information (of claim 1) includes phase offsets relative to system time, determined from the signals detected by the subscriber unit.

In an analogous art, Yang teaches an apparatus and method for estimating the time of arrival of a spread spectrum signal in a wireless communication system (abstract). Yang further teaches that phase offsets relative to system time, determined from the signals detected by the subscriber unit for determining the location of the mobile unit (figure 5, column 5 line 64 to column 6 line 22):

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to incorporate the phase offset timing, as taught by Yang, into the system of MacDonald in order to offload the system. By using the mobile station(s) to assist the base station(s), overhead processing can be reduced (enhanced system performance).

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4. **Claims 10-11, 23-24 33-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over MacDonald et al. ("MacDonald"; U.S. Patent Application Publication 2004/0152471 A1.

Regarding **claims 10-11, 23-24 and 33-34**, MacDonald discloses the invention but does not explicitly disclose the scoring of the sectors includes increasing a given score of a given sector when one or more detected signals correlate with expected signals of one or more base stations in proximity to the given sector or modifying a given score of a given sector when a repeater is associated with the given sector.

However, since MacDonald discloses the scoring of the sectors is based on the reported signal strength (see [0012] – [0013]), therefore it would have been obvious and well within the level of an ordinary skill person in the art to give the sector(s) more weight (scores) based on the proximity of the base station or repeater because of their strong signal. The motivation for given a higher scores to a sector when they are closer to the base station / repeater is because it's easier to determine the location of the wireless subscriber unit when the reported signals are strong.

Allowable Subject Matter

5. **Claims 3-7, 9, 19-22, 27-30, 32** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claims 3, 19 and 27**, the applied references fail to disclose or render obvious the claimed limitations wherein the system and method further comprising the steps of identifying a subset of the sectors that have high scores; and sending position assistance information to the subscriber unit based on the subset of the sectors.

Regarding **claims 5, 20 and 28**, the applied references fail to disclose or render obvious the claimed limitations wherein the system and method further comprising the steps of identifying a subset of the sectors that have high scores; dividing each sector of the subset of sectors that have high scores into sub-sectors; and scoring the sub-sectors based on the information, wherein a score for a given sub-sector indicates a likelihood that the subscriber is in the given sub-sector.

Regarding **claims 9 and 32**, the applied references fail to disclose or render obvious the claimed limitations, the method steps further comprising: identifying a first subset of the sectors that have high scores; identifying a second subset of the sectors by removing one or more sectors from the first subset based on a determination that the one or more sectors correspond to a location of a repeater in the wireless communication system; and sending position assistance information to the subscriber unit based on the second subset of the sectors.

CONCLUSION


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonny TRINH whose telephone number is 571-272-7927. The examiner can normally be reached on Monday-Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester KINCAID can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/29/05


SONNY TRINH
PRIMARY EXAMINER